

**Remarks/Arguments:**

**Claim Rejections Under 35 U.S.C. §103**

Claims 15-28 stand rejected under 35 U.S.C. §103 as unpatentable over U.S. Patent No. 6,517,170 (Hofsaess et al.) in view of U.S. Patent No. 4,255,088 (Newton et al.). Applicants traverse these rejections.

"To establish a *prima facie* case of obviousness, ... the prior art reference (or references when combined) must teach or suggest all the claim limitations." M.P.E.P. §2143. Additionally, as set forth by the Supreme Court in *KSR Int'l Co. v. Teleflex, Inc.*, No. 04-1350 (U.S. Apr. 30, 2007), it is necessary to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the prior art elements in the manner claimed.

The Office Action cites Hofsaess et al. as teaching an electrohydraulic brake system, but acknowledges that Hofsaess et al. "do not teach wherein a means is provided for monitoring the hydraulic delivery rate of the pump and determining quantities of gas or air at the suction side of the pump based on the monitored hydraulic rate." Newton et al. is cited for teaching these missing limitations. Applicants respectfully submit that the Office Action does not provide a reason that would have prompted a person of ordinary skill in the relevant field to combine the prior art elements in the manner claimed.

The relevant field of the claimed invention is electrohydraulic brake systems. Newton et al. explains in the Background of the Invention section, at column 1, lines 9-15, that

When pumping liquids in certain fields, the flow rate thereof can be critical.

**Illustrative of such fields are the pumping of physiological liquids in the medical field and the pumping of liquids in liquid chromatography systems.** In the medical field, infusion pumps are employed where the liquid is precisely metered into a patient's circulatory system.

(emphasis added). There is no reasonable basis for one skilled in the electrohydraulic brake system field to look to the medical devices of Newton et al. Since there is no reasonable basis to combine the cited references, a *prima facie* case of obviousness has not been established.

Assuming for argument sake that the cited references could probably be combined, the references still fail to teach or suggest each limitation of the claimed invention. Independent claim 15 recites an "electrohydraulic brake system for motor vehicles of the 'brake-by-wire' type including a hydraulic pressure source that can be actuated by means of an electronic control unit and is comprised of a hydraulic pump driven by an electric motor and a high-pressure accumulator adapted to be recharged by the pump, wherein a means is provided for monitoring

the hydraulic delivery rate of the pump and determining quantities of gas or air at the suction side of the pump based on the monitored hydraulic delivery rate."

As set forth above, the Office Action acknowledges that Hofsaess et al. "do not teach wherein a means is provided for monitoring the hydraulic delivery rate of the pump and determining quantities of gas or air at the suction side of the pump based on the monitored hydraulic rate." Contrary to the assertion in the Office Action, Newton et al. fails to overcome the shortcomings of Hofsaess et al.

Newton et al. illustrates in Fig. 1 the presence of a gas bubble 26. The gas bubble 26 is in the outlet side of the pump chamber. Newton et al. is not concerned with, nor does it discuss anywhere, determining quantities of gas or air at the suction side of the pump, as recited in claim 15.

Furthermore, Newton et al. explains at column 5, lines 53-56, that "[b]asically, circuitry 46 obtains compressibility data by determining the change of pump pressure with respect to change in pump volume to thus determine the amount of gas, if any, present in pump 10." Newton et al. does not teach or suggest monitoring the hydraulic delivery rate of the pump and determining quantities of gas or air at the suction side of the pump based on the monitored hydraulic rate."

Since the references, alone or in any reasonable combination, fail to teach or suggest each and every element as set forth in the claim, the Office Action fails to establish a *prima facie* case of obviousness. It is respectfully submitted that independent claim 15 is condition for allowance. Claims 16-21 each depend from claim 15 and should each be allowed for at least the reasons set forth above.

Furthermore, dependent claim 16 further recites that "the hydraulic delivery rate is monitored by determining the electromotive force of the electric motor driving the hydraulic pump." The office action fails to provide any support for this limitation being found in any of the cited references. Since the references, alone or in any reasonable combination, fail to teach or suggest each and every element as set forth in the claim, the Office Action fails to establish a *prima facie* case of obviousness.

Furthermore, dependent claim 17 further recites that "the hydraulic delivery rate is monitored by determining the electric power consumption of the electric motor driving the hydraulic pump." The office action fails to provide any support for this limitation being found in any of the cited references. Since the references, alone or in any reasonable combination, fail

to teach or suggest each and every element as set forth in the claim, the Office Action fails to establish a *prima facie* case of obviousness.

Furthermore, dependent claim 18 further recites that "the hydraulic delivery rate is monitored by determining the rotational speed of the electric motor driving the hydraulic pump." The office action fails to provide any support for this limitation being found in any of the cited references. Since the references, alone or in any reasonable combination, fail to teach or suggest each and every element as set forth in the claim, the Office Action fails to establish a *prima facie* case of obviousness.

Similar to claim 15, independent claim 22 recites a "method of monitoring an electrohydraulic brake system for motor vehicles of the 'brake-by-wire' type including a hydraulic pressure source that can be actuated by means of an electronic control unit and is comprised of a hydraulic pump driven by an electric motor and a high-pressure accumulator adapted to be recharged by the pump, wherein quantities of gas or air at the suction side of the pump are detected by determining the hydraulic delivery rate of the pump."

As explained above, the cited references do not teach or suggest detecting quantities of gas or air at the suction side of the pump by determining the hydraulic delivery rate of the pump. Since the references, alone or in any reasonable combination, fail to teach or suggest each and every element as set forth in the claim, the Office Action fails to establish a *prima facie* case of obviousness.

It is respectfully submitted that independent claim 22 is condition for allowance. Claims 23-28 each depend from claim 22 and should each be allowed for at least the reasons set forth above.

Furthermore, dependent claim 23 further recites that "the hydraulic delivery rate is determined by analyzing the electromotive force of the electric motor driving the pump." The office action fails to provide any support for this limitation being found in any of the cited references. Since the references, alone or in any reasonable combination, fail to teach or suggest each and every element as set forth in the claim, the Office Action fails to establish a *prima facie* case of obviousness.

Furthermore, dependent claim 24 further recites that "the hydraulic delivery rate is determined by analyzing the electric power consumption of the electric motor driving the pump." The office action fails to provide any support for this limitation being found in any of the cited references. Since the references, alone or in any reasonable combination, fail to teach

or suggest each and every element as set forth in the claim, the Office Action fails to establish a *prima facie* case of obviousness.

Furthermore, dependent claim 25 further recites that "the hydraulic delivery rate is determined by analyzing the rotational speed of the electric motor driving the pump." The office action fails to provide any support for this limitation being found in any of the cited references. Since the references, alone or in any reasonable combination, fail to teach or suggest each and every element as set forth in the claim, the Office Action fails to establish a *prima facie* case of obviousness.

It is respectfully submitted that each of the pending claims is in condition for allowance. Early reconsideration and allowance of each of the pending claims are respectfully requested.

If the Examiner believes an interview, either personal or telephonic, will advance the prosecution of this matter, it is respectfully requested that the Examiner get in contact with the undersigned to arrange the same.

Respectfully submitted,



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